6313081

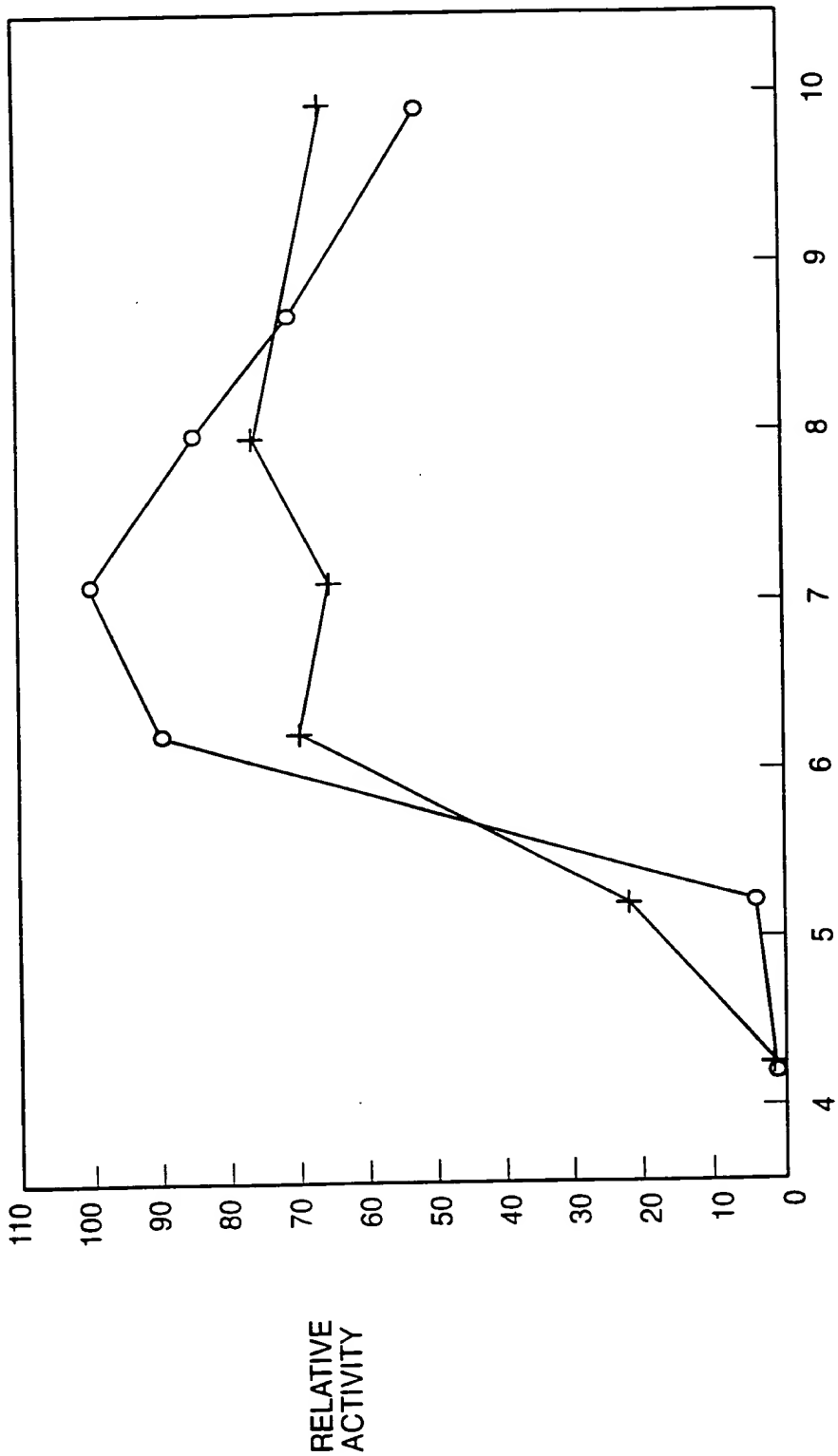

FIG._1

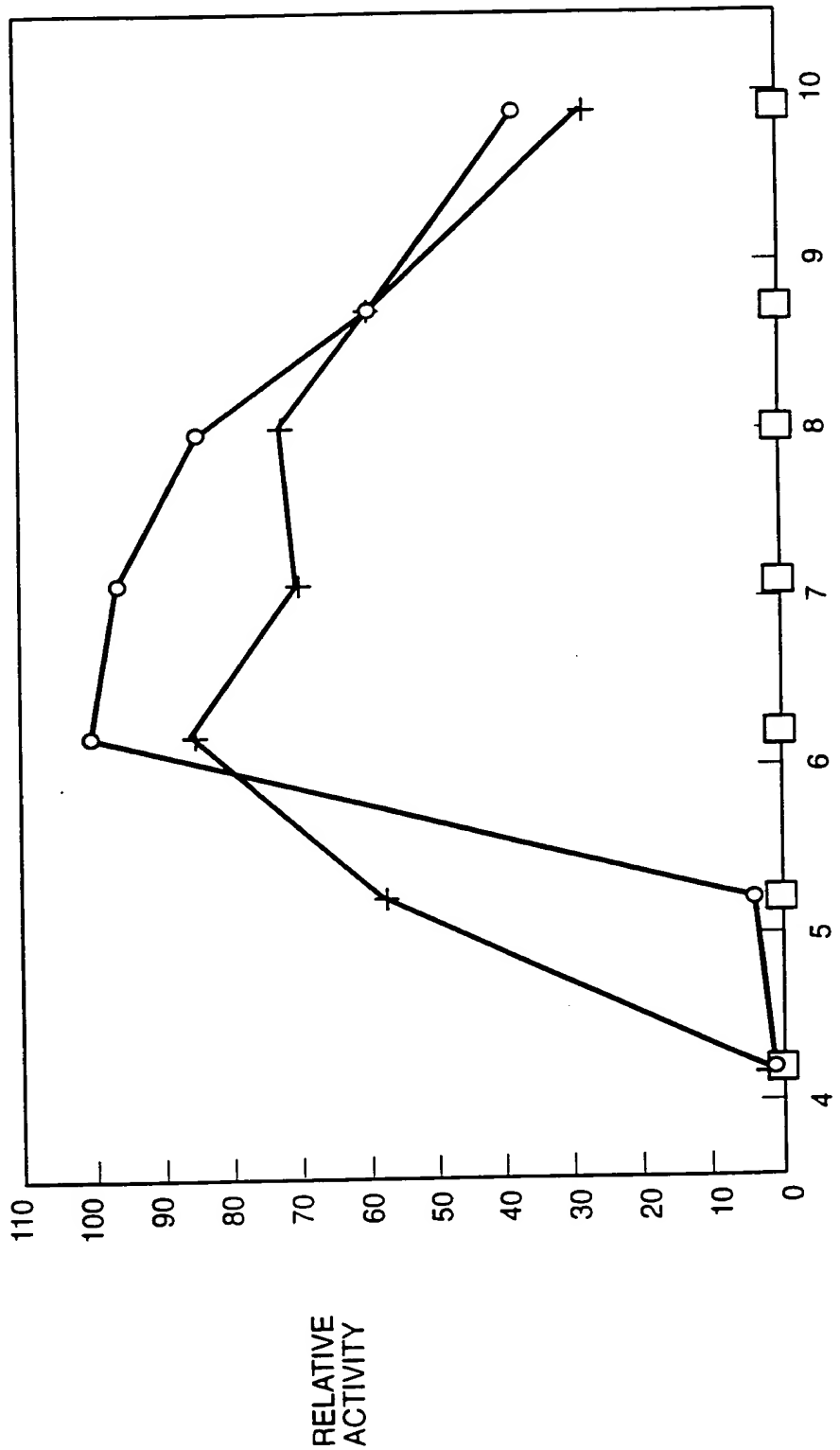

FIG._2

```
-121 GAATTCCGTTACATATTTTGCAAAAAAGAGGGTGGTGGCGCTACATATACACCTTAAAAAG

 -60 TGCAGACTAAAACGATTTCGTTTCAGTATGAAAAGCTAAACCATTACCAAGGAGGAAATT

   1 ATGAAAAAGATAACTACTATTTTTGCCGTATTGCTCATGACATTGGCGTTGTTCAGTATA
     MetLysLysIleThrThrIlePheAlaValLeuLeuMetThrLeuAlaLeuPheSerIle

  61 GGAAACACGACAGCGGCTGATGATTATTCAGTTGTAGAGGAACATGGGCAACTAAGTATT
     GlyAsnThrThrAlaAlaAspAspTyrSerValValGluGluHisGlyGlnLeuSerIle

 121 AGTAACGGTGAATTAGTCAATGAACGAGGCGAACAAGTTCAGTTAAAAGGGATGAGTTCC
     SerAsnGlyGluLeuValAsnGluArgGlyGluGlnValGlnLeuLysGlyMetSerSer

 181 CATGGTTTGCAATGGTACGGTCAATTTGTAAACTATGAAAGCATGAAATGGCTAAGAGAT
     HisGlyLeuGlnTrpTyrGlyGlnPheValAsnTyrGluSerMetLysTrpLeuArgAsp

 241 GATTGGGGAATAACTGTATTCCGAGCAGCAATGTATACCTCTTCAGGAGGATATATTGAC
     AspTrpGlyIleThrValPheArgAlaAlaMetTyrThrSerSerGlyGlyTyrIleAsp

 301 GATCCATCAGTAAAGGAAAAAGTAAAAGAGACTGTTGAGGCTGCGATAGACCTTGGCATA
     AspProSerValLysGluLysValLysGluThrValGluAlaAlaIleAspLeuGlyIle

 361 TATGTGATCATTGATTGGCATATCCTTTCAGACAATGACCCGAATATATATAAAGAAGAA
     TyrValIleIleAspTrpHisIleLeuSerAspAsnAspProAsnIleTyrLysGluGlu

 421 GCGAAGGATTTCTTTGATGAAATGTCAGAGTTGTATGGAGACTATCCGAATGTGATATAC
     AlaLysAspPhePheAspGluMetSerGluLeuTyrGlyAspTyrProAsnValIleTyr

 481 GAAATTGCAAATGAACCGAATGGTAGTGATGTTACGTGGGACAATCAAATAAAACCGTAT
     GluIleAlaAsnGluProAsnGlySerAspValThrTrpAspAsnGlnIleLysProTyr

 541 GCAGAAGAAGTGATTCCGGTTATTCGTGACAATGACCCTAATAACATTGTTATTGTAGGT
     AlaGluGluValIleProValIleArgAspAsnAspProAsnAsnIleValIleValGly

 601 ACAGGTACATGGAGTCAGGATGTCCATCATGCAGCCGATAATCAGCTTGCAGATCCTAAC
     ThrGlyThrTrpSerGlnAspValHisHisAlaAlaAspAsnGlnLeuAlaAspProAsn

 661 GTCATGTATGCATTTCATTTTTATGCAGGAACACATGGACAAAATTTACGAGACCAAGTA
     ValMetTyrAlaPheHisPheTyrAlaGlyThrHisGlyGlnAsnLeuArgAspGlnVal

 721 GATTATGCATTAGATCAAGGAGCAGCGATATTTGTTAGTGAATGGGGGGACAAGTGCAGCT
     AspTyrAlaLeuAspGlnGlyAlaAlaIlePheValSerGluTrpGlyThrSerAlaAla

 781 ACAGGTGATGGTGGTGTGTTTTTAGATGAAGCACAAGTGTGGATTGACTTTATGGATGAA
     ThrGlyAspGlyGlyValPheLeuAspGluAlaGlnValTrpIleAspPheMetAspGlu

 841 AGAAATTTAAGCTGGGCCAACTGGTCTCTAACGCATAAGGATGAGTCATCTGCAGCGTTA
     ArgAsnLeuSerTrpAlaAsnTrpSerLeuThrHisLysAspGluSerSerAlaAlaLeu

 901 ATGCCAGGTGCAAATCCAACTGGTGGTTGGACAGAGGCTGAACTATCTCCATCTGGTACA
     MetProGlyAlaAsnProThrGlyGlyTrpThrGluAlaGluLeuSerProSerGlyThr
```

FIG._3A

```
961  TTTGTGAGGGAAAAAATAAGAGAATCAGCATCTATTCCGCCAAGCGATCCAACACCGCCA
     PheValArgGluLysIleArgGluSerAlaSerIleProProSerAspProThrProPro

1021 TCTGATCCAGGAGAACCGGATCCAGGAGAACCGGATCCAACGCCCCCAAGTGATCCAGGA
     SerAspProGlyGluProAspProGlyGluProAspProThrProProSerAspProGly

1081 GAGTATCCAGCATGGGATTCAAATCAAATTTACACAAATGAAATTGTGTATCATAACGGT
     GluTyrProAlaTrpAspSerAsnGlnIleTyrThrAsnGluIleValTyrHisAsnGly

1141 CAGTTATGGCAAGCGAAATGGTGGACACAAAATCAAGAGCCAGGTGACCCATACGGTCCG
     GlnLeuTrpGlnAlaLysTrpTrpThrGlnAsnGlnGluProGlyAspProTyrGlyPro

1201 TGGGAACCACTCAAATCTGACCCAGATTCAGGAGAACCGGATCCAACGCCCCCAAGTGAT
     TrpGluProLeuLysSerAspProAspSerGlyGluProAspProThrProProSerAsp

1261 CCAGGAGAGTATCCAGCATGGGATTCAAATCAAATTTACACAAATGAAATTGTGTACCAT
     ProGlyGluTyrProAlaTrpAspSerAsnGlnIleTyrThrAsnGluIleValTyrHis

1321 AACGGCCAGCTATGGCAAGCAAAATGGTGGACACAAAATCAAGAGCCAGGTGACCCATAT
     AsnGlyGlnLeuTrpGlnAlaLysTrpTrpThrGlnAsnGlnGluProGlyAsnProTyr

1381 GGTCCGTGGGAACCACTCAATTAAACTATATAATTGATAAAAATTTACTAATGAGATAGT
     GlyProTrpGluProLeuAsnEnd

1441 GAGAATCCCAAGAGTCTAAATTTGAAGATTGGCATTCTCATTTTACAATTAATTTAATCC

1501 ATTGAAAATATTTAAAAACGAATTTTATAATATCCAAGGTACCATACTTAATTGGCGGTA

1561 CTTTTTTCTGTCCTTATAGCTGCCCATCCCCCCGAAAAAGCGGTCGAAAACTGGTGCATT

1621 TTTCAGCATTATCTTGTAAATATCAAAACATAAGAAAAAGCCTTGAAACATTGATATGAC

1681 AACGTTTCTAAGGCTTTTCTGCATTTCTTATTCAGTGTATGCCAATTAACGAGAGTACCA

1741 CTCAACGATAAGTTGTTCGTTAATTTCAGCTGGAAGCTCAGAACGCTCAGGTAAACGAGT

1801 GAACGTACCTTCAAGCTT
```

FIG._3B

```
-630                                                    GAATTCTTTGGATCATGATGGAAGGCGAAA

-600 TCATGAGCATTGCCCTTGCGACGATTACGGCTTCTGTCGGCGTCTACTTGCTTGCGTCAG

-540 CGGTTCAAGGTTGGTTTGCAGGTAAAGCTGCATTAACTGTTGTTCGTTTACTTCTCATTG

-480 TCGCTGCTGTTTGTCTTATTCATTCAAATTGGGTGTATGACTTTGTCGCCCTCGGNATCG

-420 CGGGTATCGCCATTATNCTTCAAAGAACAGTTATTAACAGACGCCATGGGTTCCAAGGCA

-360 AGTACAGTTTAAAACGAGAGATTTAAGAGGCCGCTCCCAATGAGGGAGTGGTCTTTTTTA

-300 CATTCNAAAAAGAGGAAAATAGGAGAAATGTAGATCCGACGTAGATAAGTATTAGGTTTT

-240 AAGTGTAAGTACAGCTAAGAAAGCTGCTTTTGCTGATTCTATGAAAAAGTGCTTGTTAAA

-180 CATTTTGACATGATTTTCTGTGAAATAAATGATCTATTTTCTGTGAAACAATTGTGATAG

-120 ATTGGTGTAGAGTTTTGATAATTCTAAATTTTCGTTCAAAAGGAGGTTGAGGTTCATTTA

 -60 CGATTTTGTCAACAGTCAATTGTTGTTTCCGGGTAACTCATTTGGAGGTGGTGGAGTCTG

   1 ATGAAGTGGATGAAATCCATGGTATGGTTGGCCGTTGTTTTGGTCGTTTCGTTCGTAGCT
     MetLysTrpMetLysSerMetValTrpLeuAlaValValLeuValValSerPheValAla

  61 CCTGCCGTTAGTTCAGCTAATGAGGATGTAAAAACTCTCGATATTCAGTCCTATGTAAGA
     ProAlaValSerSerAlaAsnGluAspValLysThrLeuAspIleGlnSerTyrValArg

 121 GACATGCAGCCGGGTTGGAATCTTGGGAATACGTTTGATGCCGTCGGACAAGATGAAACA
     AspMetGlnProGlyTrpAsnLeuGlyAsnThrPheAspAlaValGlyGlnAspGluThr

 181 GCATGGGGAAATCCACGTGTGACACGAGAATTAATTGAACGGATTGCGGATGAAGGGTAT
     AlaTrpGlyAsnProArgValThrArgGluLeuIleGluArgIleAlaAspGluGlyTyr

 241 AAAAGCATTCGGATTCCGGTGACGTGGGAAAATCGTATCGGAGGGGCACCTGATTATCCT
     LysSerIleArgIleProValThrTrpGluAsnArgIleGlyGlyAlaProAspTyrPro

 301 ATTGATCCCCAGTTTTTAAATCGAGTGGACGAAGTTGTTCAATGGGCGCTGGAAGAAGAT
     IleAspProGlnPheLeuAsnArgValAspGluValValGlnTrpAlaLeuGluGluAsp

 361 TTGTATGTCATGATTAATTTACACCATGATTCATGGTTATGGATTTATGAAATGGAGCAC
     LeuTyrValMetIleAsnLeuHisHisAspSerTrpLeuTrpIleTyrGluMetGluHis

 421 AACTACAACGGTGTGATGGCCAAGTATCGCTCGCTCTGGGAGCAACTATCGAACCACTTC
     AsnTyrAsnGlyValMetAlaLysTyrArgSerLeuTrpGluGlnLeuSerAsnHisPhe

 481 AAAGACTATCCAACAAAGCTTATGTTTGAAAGTGTCAATGAGCCAAAGTTTAGTCAAAAC
     LysAspTyrProThrLysLeuMetPheGluSerValAsnGluProLysPheSerGlnAsn

 541 TGGGGTGAGATCCGTGAGAATCACCATGCGTTACTAGACGACTTAAACACAGTGTTTTTC
     TrpGlyGluIleArgGluAsnHisHisAlaLeuLeuAspAspLeuAsnThrValPhePhe

 601 GAGATTGTGAGACAGTCTGGTGGCCAAAATGATATCCGGCCGTTAGTGTTACCGACTATG
     GluIleValArgGlnSerGlyGlyGlnAsnAspIleArgProLeuValLeuProThrMet

 661 GAAACAGCCACATCACAACCGTTGCTGAACAACCTTTATCAAACAATTGACAAATTGGAT
     GluThrAlaThrSerGlnProLeuLeuAsnAsnLeuTyrGlnThrIleAspLysLeuAsp
```

FIG._4A

```
721  GATCCGAATCTAATTGCGACAGTACACTATTACGGGTTTTGGCCTTTTAGCGTGAATATC
     AspProAsnLeuIleAlaThrValHisTyrTyrGlyPheTrpProPheSerValAsnIle

781  GCCGGCTACACTCGCTTTGAAGAGGATTCGAAACGGGAGATCATCGAAACGTTTGATCGA
     AlaGlyTyrThrArgPheGluGluAspSerLysArgGluIleIleGluThrPheAspArg

841  GTACACCATACATTTGTTGCAAGAGGGATTCCAGTCGTTTTAGGTGAGTTCGGCTTGCTT
     ValHisHisThrPheValAlaArgGlyIleProValValLeuGlyGluPheGlyLeuLeu

901  GGATTTGATAAACATACTGGAGTGATTCAACAAGGTGAAAAGCTAAAATTCTTTGAGTAT
     GlyPheAspLysHisThrGlyValIleGlnGlnGlyGluLysLeuLysPhePheGluTyr

961  CTCATCCATCATTTGAACGAGCGGGATATTACTCATATGCTTTGGGATAATGGGCAGCAT
     LeuIleHisHisLeuAsnGluArgAspIleThrHisMetLeuTrpAspAsnGlyGlnHis

1021 TTCAATCGTCATACGTACGAATGGTATGACGAGGAATTGTTTGACATGTTGCGGGCAAGC
     PheAsnArgHisThrTyrGluTrpTyrAspGluGluLeuPheAspMetLeuArgAlaSer

1081 TGGGGAGGAAGATCATCCGTTGCAGAGTCGAACTTTATCTATTTAAAACAGGGAGACCGA
     TrpGlyGlyArgSerSerValAlaGluSerAsnPheIleTyrLeuLysGlnGlyAspArg

1141 ATCGCAGATGCAACAGTTACATTACAATTGCACGGAAATGAATTAACAGGGCTTCAGGCG
     IleAlaAspAlaThrValThrLeuGlnLeuHisGlyAsnGluLeuThrGlyLeuGlnAla

1201 AATGGACAACGACTAACGCCGGGGCAGGACTATGAGTTAAATGGAGAAAGACTTACAGTG
     AsnGlyGlnArgLeuThrProGlyGlnAspTyrGluLeuAsnGlyGluArgLeuThrVal

1261 AAGGCCCATGTCCTATCGGCAATCGCAGGTTCAGGTACGTTAGGTACGAATGGAATGGTA
     LysAlaHisValLeuSerAlaIleAlaGlySerGlyThrLeuGlyThrAsnGlyMetVal

1321 ACGGCTGAGTTTAATCGTGGGGCAGATTGGCATTTTCGGGTGAATACGTATCGTACGCCT
     ThrAlaGluPheAsnArgGlyAlaAspTrpHisPheArgValAsnThrTyrArgThrPro

1381 GTATTGCAAAGCACGCAAGGTCACGTGAGCAACTTCAGCATTCCTGCTTCCTTTAATGGG
     ValLeuGlnSerThrGlnGlyHisValSerAsnPheSerIleProAlaSerPheAsnGly

1441 AATAGCTTAGCAACAATGGAGGCTGTCTATGTGGATGGCGGAAATGCTGGCCCGCAAGAC
     AsnSerLeuAlaThrMetGluAlaValTyrValAspGlyGlyAsnAlaGlyProGlnAsp

1501 TGGACCTCCTTTAAGGAGTTTGGCTATGCCTTCTCTCCTTCTTATGATACACATGAGATT
     TrpThrSerPheLysGluPheGlyTyrAlaPheSerProSerTyrAspThrHisGluIle

1561 AAACTGACCGAGGCGTTTTTTCGTGAGGTGCGGGATGGTGAAGTTCGGTTAACCTTCCAT
     LysLeuThrGluAlaPhePheArgGluValArgAspGlyGluValArgLeuThrPheHis

1621 TTTTGGAGTGGTGAAATAGTCAACTATACGATTATTAAAAACGGGAACCAGGTGACTGGG
     PheTrpSerGlyGluIleValAsnTyrThrIleIleLysAsnGlyAsnGlnValThrGly

1681 ATAGCAGCTCAGACAACCAATTCAAAAAACAAAAATAAAAAATGAAATTGAAAGCGCTTT
     IleAlaAlaGlnThrThrAsnSerLysAsnLysAsnLysLysEnd

1741 CTATGGTGTTGCCCGAATATCTGAGGTTCTTTAGTAGAATCCGATATTCGGGTTTTTTCA

1801 TACATTATAGGGGCGCTTTTTTATGTTGCGCAGGTTAAATGGTCTTACGTATGGGAACCC

1861 TACTACTAGATTATTGTGCACTCTTTTTGAGTACCATTATCACCGCCCTATCATATGTAT
```

FIG._4B

```
1921 ATGAGTTGAACCATCTAGTAACCTCTCTTAAAATTGGTAAAGGAAATGTAACGTTGTGAT
2041 AGTAAGGAAATGGTATGATGGAGAGAGACGTGTGATCGAGAAATGGAGGAACGCAGAATG
2101 AATGAAACGATGCAACGCATCGCGAGAGTCATAGAGAATGTGGAACGAGTGGCCGCCGGG
2161 AAACGTCAGGAAATCGAGCTGAGCCTTGTCGCATTATTTGCTAGCGG
```

FIG._4C